LISTING OF CLAIMS

1. (amended) A system for inspecting a specimen, comprising:

an illumination system comprising an arc lamp able to provide light energy having a wavelength in the range of approximately 285 to 320 nanometers; and

an imaging subsystem oriented and configured to receive said light energy from said illumination system and direct light energy toward said specimen, said imaging subsystem comprising a plurality of elements having diameter less than approximately 100 millimeters ~~lenses and having a field size, wherein a ratio of lens diameter to field size is less than 100 to 1~~.

2. (amended) The system of claim 1, wherein said ~~imaging subsystem further~~ plurality of elements comprises a mangin mirror arrangement.

3. (canceled)

4. (cancelled)

5. (amended) The system of claim 1, said plurality of elements ~~further~~ comprising collection optics for collecting light energy reflected from said specimen, wherein the collection optics are catadioptric.

6. (previously presented) The system of claim 1 where the imaging and illumination subsystems support at least one of a group of inspection modes comprising bright field, ring dark field, directional dark field, full sky, aerial imaging, confocal, and fluorescence.

7. (previously presented) The system of claim 1 where the imaging subsystem uses a varifocal system for the full magnification range.

8. (previously presented) The system of claim 1 where separate imaging lenses are used for specific magnification increments.

9. (previously presented) The system of claim 1, further comprising a data analysis subsystem for analyzing data representing the light energy reflected from the specimen, wherein the data analysis subsystem has the ability to record defect position for any defect on the specimen.

10. – 68. (canceled)

69. (canceled)

70. (previously presented) The system of claim 5 where the catadioptric optics support wavelengths from approximately 266 – 600nm.

71. – 74. (canceled)

75. (amended) A system for inspecting a specimen, comprising:

an illumination system able to provide light energy having a wavelength within a predetermined range; and

an imaging subsystem oriented and configured to receive said light energy from said illumination system and direct light energy toward said specimen, said imaging subsystem comprising a plurality of optical elements having maximum diameter less than approximately 100 millimeters~~lenses and having a field size, wherein a ratio of lens diameter to field size is less than 100 to 1~~.

76. (previously presented) The system of claim 75, wherein the predetermined range is approximately 285-320 nanometers.

77. (amended) The system of claim 75, wherein said ~~imaging subsystem further~~ plurality of optical elements comprises a mangin mirror arrangement.

78. (amended) The system of claim 75, ~~further comprising~~ wherein said plurality of optical elements comprises collection optics for collecting light energy reflected from said specimen, wherein the collection optics are catadioptric.

79. (previously presented) The system of claim 75, where the imaging and illumination subsystems support at least one of a group of inspection modes comprising bright field, ring dark field, directional dark field, full sky, aerial imaging, confocal, and fluorescence.

80. (previously presented) The system of claim 75, where the imaging subsystem uses a varifocal system for the full magnification range.

81. (previously presented) The system of claim 75, where separate imaging lenses are used for specific magnification increments.

82. (previously presented) The system of claim 75, further comprising a data analysis subsystem for analyzing data representing the light energy reflected from the specimen, wherein the data analysis subsystem has the ability to record defect position for any defect on the specimen.

83. (amended) A system for inspecting a specimen, comprising:

an illumination system able to provide light energy having a wavelength within a predetermined range; and

an imaging subsystem configured to receive said light energy and direct light energy toward said specimen using a plurality of elements having a maximum diameter less than approximately 100 millimeters~~, lenses, said imaging subsystem having a field size, wherein a ratio of lens diameter to field size for all of the plurality of lenses is less than 100 to 1~~.

84. (amended) The system of claim 83, wherein plurality of elements ~~said imaging subsystem further~~ comprises a mangin mirror arrangement.

85. (previously presented) The system of claim 83, further comprising a data analysis subsystem for analyzing data representing the light energy reflected from the specimen, wherein the data analysis subsystem has the ability to record defect position for any defect on the specimen.

Please add the following new claims:

86. (new) A method for inspecting a specimen, comprising:

providing light energy having a wavelength within a predetermined range; and

receiving said light energy and directing light energy toward said specimen using a plurality of optical elements having maximum diameter less than approximately 100 millimeters.

87. (new) The method of claim 86, wherein the predetermined range is approximately 285-320 nanometers.

88. (new) The method of claim 86, wherein said plurality of optical elements comprises a mangin mirror arrangement.

89. (new) The method of claim 86, wherein said plurality of optical elements comprises collection optics for collecting light energy reflected from said specimen, wherein the collection optics are catadioptric.

90. (new) The method of claim 86, where providing and receiving and directing supports at least one of a group of inspection modes comprising bright field, ring dark field, directional dark field, full sky, aerial imaging, confocal, and fluorescence.

91. (new) The method of claim 86, further comprising analyzing data representing the light energy reflected from the specimen, wherein analyzing data provides an ability to record defect position for any defect on the specimen.